General Specifications

PM1D

Number of scene memories	1000
Sampling Frequency	Internal: 48kHz/44.1kHz External: 44.1kHz-6% ~ 48kHz+6%
Fader	67 x 100mm motorized
Fader Resolution	+10~-90, - ∞ dB
Total Harmonic Distortion	Less than 0.1% 20Hz~20kHz @+14dB into 600 W Less than 0.01% 1kHz @+18dB into 600 W CH IN to STEREO OUT
Frequency Response	+1, -3dB 20Hz~20kHz @+4dB into 600 W
Dynamic Range (maximum level to noise level)	124dB min. DA Converter (STEREO OUT) 118dB typ. AD+DA (CH IN to STEREO OUT) 110dB min. AD+DA (CH IN to STEREO OUT)
Hum & Noise (Rs=150Ω) (Input Gain=Max.) (Input Sensitivity=-70dB)	-128dB Equivalent Input Noise. (20Hz ~ 20KHz)

Input section CH1-96, ST IN1-8

De-emphasis/DC cut	
Phase	Normal/Reverse
Patch	Input, Direct out, Insert in/out
Attenuation	0~-96dB
Equalizer	HPF+4 band PEQ (LPF/HSF selectable 1band, LSF selectable 1band)
Gate	Gate/Ducking selectable
Comp	Comp/Expander/comp+expander selectable
Delay	Delay time (0~200ms: fs=48kHz)
Fader	100mm motorized
On/Off	
Cue/Solo	On/Off (PFL/AFL)
Pan	LR/LCR selectable
Surround	2+2, 3+1, 5.1
Stereo/group assign	STEREO/GROUP 1-48 (FIX/VARI selectable)
Metering	pre att peak, comp/gate gain reduction, pre att/pre gate/pre fader/post fader/post on selectable

Output section STEREOA, B, GROUP1-48, MATRIX1-24

Patch	Output, Insert in/out
Attenuation	0~-96dB
Equalizer	6 band PEQ (LPF selectable 1band, HPF selectable 1band)
Comp	Comp/Expander/comp+expander selectable
Delay	Delay time (0~1000ms: fs=48kHz)
Fader	100mm motorized
On/Off	
Cue/Solo	On/Off (PFL/AFL)
Balance	Stereo A, B, Paired group & Matrix
Mono	Stereo B
to stereo assign	from group output
to matrix assign	from group/stereo output
Metering	comp gain reduction, pre att/pre fader/post fader/post on selectable
Dither	On/Off, Word length 16~24bit

Other mixer section

Effects	Internal patchable eight multi-effecter
Graphic equalizer	Internal patchable twenty four 31bands graphic equalizer with 4 notch filter each
Oscillator	sign/pink/band filtered pink
Talk back	From console A & B
Communication In	Including ducking control
12 DCA	with DCA mute, DCA cue/solo
12 Mute master	
Monitor A	2tr in1, 2, ST A, B, user define selectable with delay (max 300msec)
Monitor B	2tr in1, 2, ST A, B, moni A, user define selectable
2tr in 1-6	from console A & B
Cascade In/Out	group, stereo & cue bus cascade

Others

LCD Display	800 x 600 Dots Graphic color LCD with backlit
VGA output	SVGA out D-Sub 15 pin connector (female)
Keyboard	PS2 mini DIN 6 pin connector
Mouse	PS2 mini DIN 6 pin connector
MIDI	In, Out, Thru
Timecode In	SMPTE XLR3-31 type Connector
GPI	D-Sub 25 pin connector (female)
USB	USB connector
PCMCIA card slot for external memory	

DSP1D: DSP Unit

10 digital signal in	68pin digital signal connector
6 digital signal out	68pin digital signal connector
Console I/O	2pair BNC 50Ω, 68pin digital signal connector
Cascade I/O	68pin digital signal connector
Word clock I/O	BNC 75Ω

AI8-ML8: AD unit

Slot	8slots for AD card
Phantom switch	+48V DC for Mic/Line inputs
Gain control	80dB (-70~+10) for Mic/Line inputs
A/B switch	A/B input selectable for Mic/Line inputs
AD converter	28bit, 128 times over-sampling
Digital signal Output	3 (A, B, C) 68pin digital connector
Word clock & control	Master select switch (A/B/C)

AO8-DA8: DA unit

Slot	8slots for DA card
Maximum Output level	24/18/15dB selectable
DA converter	27bit, 128 times over-sampling
Digital signal Input	2 (A, B) 68pin digital signal connector
Word clock & control	Master select switch (A/B)

DIO8: Digital I/O unit

Slot	mini-YGDAI 8slots (ADAT, TASCAM, AES/EBU card)
Digital signal I/O	4 (in A, B, out A, B) 68pin digital signal connector
Word clock & control	master select switch (OUT1-4/5-8, in/out)

Dimensions

■ CS1D: Control Surface

Height	353mm
Depth	974mm
Width	1904mm
Weight	120kg

■ PW1D: Power supply

Height	88mm (2U)
Depth	355mm
Width	480mm
Weight	7kg
Power Consumption	1000W

■ DSP1D: DSP unit

Height	396mm (9U)
Depth	480mm
Width	480mm
Weight	22kg
Power Consumption	200W

■ AI8: AD unit (no cards)
■ AO8: DA unit (no cards)

Height	132mm (3U)
Depth	555mm
Width	480mm
Weight	14kg
Power Consumption	180W

■ DIO8: Digital I/O unit (no cards)

Height	176mm (4U)
Depth	400mm
Width	480mm
Weight	12kg
Power Consumption	100W

TEAC, TASCAM are registered trademarks of TEAC Corporation.
ADAT, ALESIS are registered trademarks of Alesis Corporation.
ADAT Digital Interface is a trademark of Alesis Corporation.
*Specifications and appearance subject to change without notice.

YAMAHA Web Site
http://www.yamaha.co.jp/english/
http://www.yamaha.co.jp/product/proaudio/homeenglish/

YAMAHA
YAMAHA CORPORATION
P.O.BOX 1, Hamamatsu Japan
RPA99-8 Printed in japan

YAMAHA

PM1D

DIGITAL AUDIO MIXING SYSTEM

PRELIMINARY

Leading Digital Technology Plus PM-series Features & Flexibility

The Yamaha PM1D Digital Mixing System takes sound reinforcement to unprecedented levels of performance and flexibility.
It combines digital mixing and signal processing technology attained through more than 12 years experience with digital sound
— more than 100,000 Yamaha digital mixers have already been sold worldwide —
with the type of features and flexibility that have made the PM-series sound reinforcement consoles the leading choice of sound professionals worldwide. Available in 48-channel and 96-channel base configurations,
the PM1D offers outstanding digital sound quality and controllability in a system that is remarkably compact, easy to set up, and cost-effective.
The Yamaha PM1D defines the next generation of sound reinforcement.

Extraordinary Programmability, Repeatability, and Instantaneous Total Recall

The entire PM1D system offers extraordinary power and flexibility in terms of programmability and repeatability. In addition to a sophisticated analog-style control surface, all parameters can be accessed and edited via a familiar computer interface, with graphic readout for easy, efficient operation. In fact, the entire setup can be programmed off-line on a standard desktop or laptop computer and then loaded into the PM1D when needed. Instantaneous total recall of as many as 1,000 scenes makes it a snap to keep up with even the most complex programs, and undo capability makes it easy to avoid potential mistakes.

All-digital Sound & Processing

Yamaha is no newcomer to digital sound. Yamaha digital mixing consoles have revolutionized the recording and production industries, and there is no question that the sound quality and processing power they provide are first class. The same type of technology has been applied in the PM1D — with many advancements and improvements that take overall audio performance to new levels. Top-quality 28-bit AD and 27-bit DA conversion deliver extraordinary sonic resolution for totally clean, natural sound. The same goes for signal processing whether it's EQ, compression, or effects. The PM1D offers vast processing power and unmatched performance in all areas so you won't need any external processing gear. Of course, if there's a device that you simply have to use to achieve your sound, the PM1D lets you patch it in just about anywhere in the system. In fact, all signal routing and patching is controlled digitally via a comprehensive centralized display that makes system setup a snap.

Compact, Streamlined Configuration for Easy Transport & Positioning

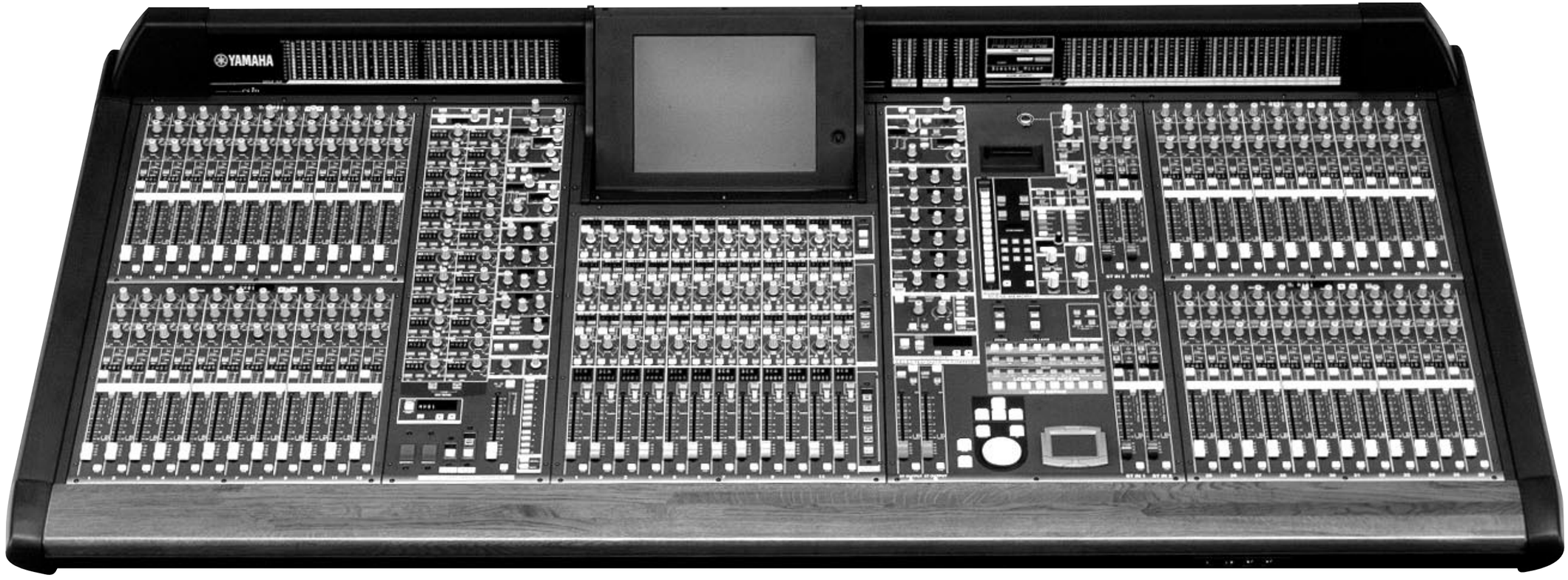
The entire PM1D system — the console itself and one or two equipment racks (depending on your I/O requirements) — is considerably smaller, lighter, and much more easy to handle than comparable anlog systems. And because of the small size of the console, you have more freedom in selecting and setting up your mixing location. The PM1D is also a natural choice for mobile applications..

Fast, Easy Setup and Minimum Cabling with Ethernet-based System Connections

In stark contrast to the snakes and bundles of cables required for analog sound reinforcement, all PM1D console-to-stage audio and control signals are carried via one 68-pin cable per 32 channels, and three Ethernet cables. So once the console and rack(s) are in position, it shouldn't take more than a few minutes to have the whole rig connected and ready to run.

Performance You Can Depend On

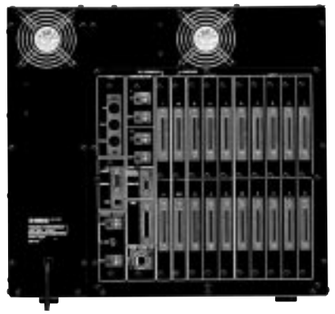
Reliability is another important feature of the PM1D. Since all console settings are duplicated within the rack-mount processing engine, operation will continue uninterrupted even if the control surface itself is accidentally shut down.



48-channel Basic System Easily Expandable to 96 Channels

The “heart” of the PM1D system is the rack-mounted DSP1D mix and processing engine. Virtually all digital audio signal processing occurs within the DSP1D. Input and output is handled by appropriate modules which can be mixed and matched to create the system that ideally meets your mixing requirements.

DSP UNIT DSP*1*D



DSP1D
Mix & Processing Engine

The main “engine” controlling all console and I/O functions. The base-model DSP1D can handle up to 48 channels, expandable to 96 channels with the optional Input Processing Board (IDB1D).

ANALOG INPUT BOX AI*8*

x8

AI8-ML8
Mic/Line Head Amplifier Unit

This is an AI8 analog-input rack-mount unit fitted with 8 LMY2-ML Mic/Line Input modules. Each LMY2-ML Mic/Line Head Amplifier cardf features 4 balanced XLR-type input connectors (dual A/B switchable mic/line inputs) and the corresponding AD conversion circuitry. Microphone gain trim and phantom power are supported, and can be controlled from the console.

x8

AI8-AD8
Line Input AD Unit

The AI8-AD8 is an AI8 analog-input rack-mount unit fitted with 8 LMY4-AD Line-input AD modules. LMY4-AD Line Input AD modules feature 4 line inputs and the corresponding AD conversion circuitry.

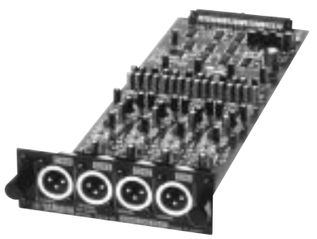
x4

x4

AI8-ML4AD4
Mic/Line Head Amplifier & Line Input AD Unit

An AI8 analog-input rack-mount unit fitted with 4 LMY2-ML Mic/Line Input Modules and 4 LMY4-AD Line Input AD modules.

ANALOG OUTPUT BOX AO*8*



AO8-DA8
Line Output DA Unit

An AO8 analog-output rack-mount unit with 8 LMY4-DA Line Output DA modules. LMY4-DA Line Output DA modules feature 4 line outputs and the corresponding DA conversion circuitry.

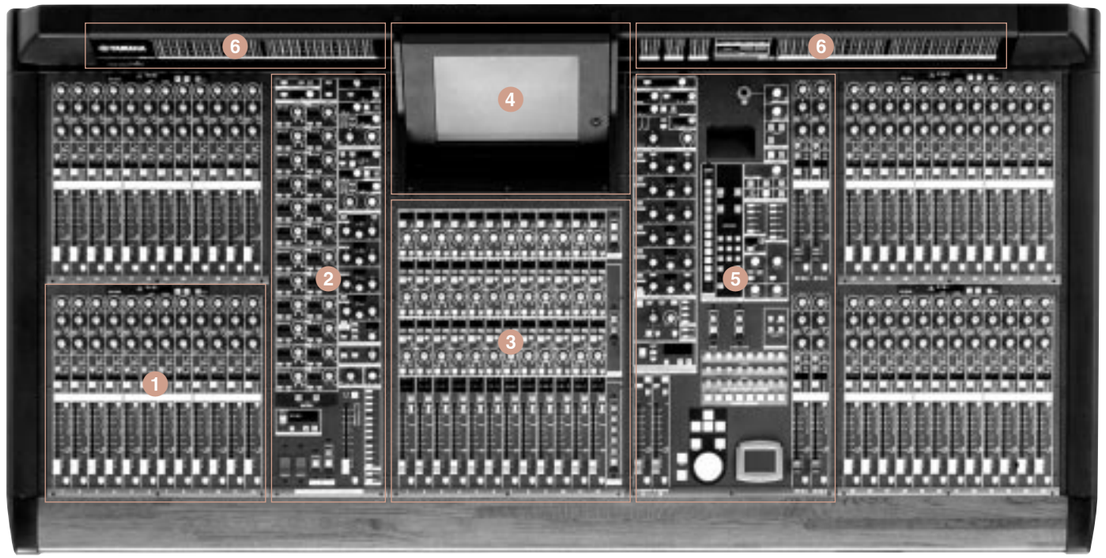
DIGITAL IO UNIT DIO*8*

DIO8
Mini YGDAI Card Unit

Rack-mount unit capable of accomodating up to 8 mini-YGDAI digital I/O cards to conveniently interface with AES/EBU, ADAT, and TASCAM format digital systems.

The CS1D Digital Console & PW1D Power Supply Unit

Sleek, analog-style control surface for the entire PM1D system, and high-performance power supply.



1 Input Control Section

The CS1D has 4 fully assignable input control sections like this, each accessing 12 channels for a total of 48 channels up front - 96 using the console's flip switches.

2 Channel Details & Effects

All controls for EQ, dynamics, send level etc. for the selected channel are accessible via these analog-style controls.

3 Group/Matrix

Fully assignable output group and matrix bus controls make signal routing exceptionally flexible and easy.

4 LCD Display

Large 800 x 600 pixel color display for efficient programming and control.

5 Master Control and Data Entry Section

Master EQ and dynamics control for group and matrix output.
Function buttons, track pad, encoder and INC/DEC keys for easy function selection and data entry.

6 Level Meters

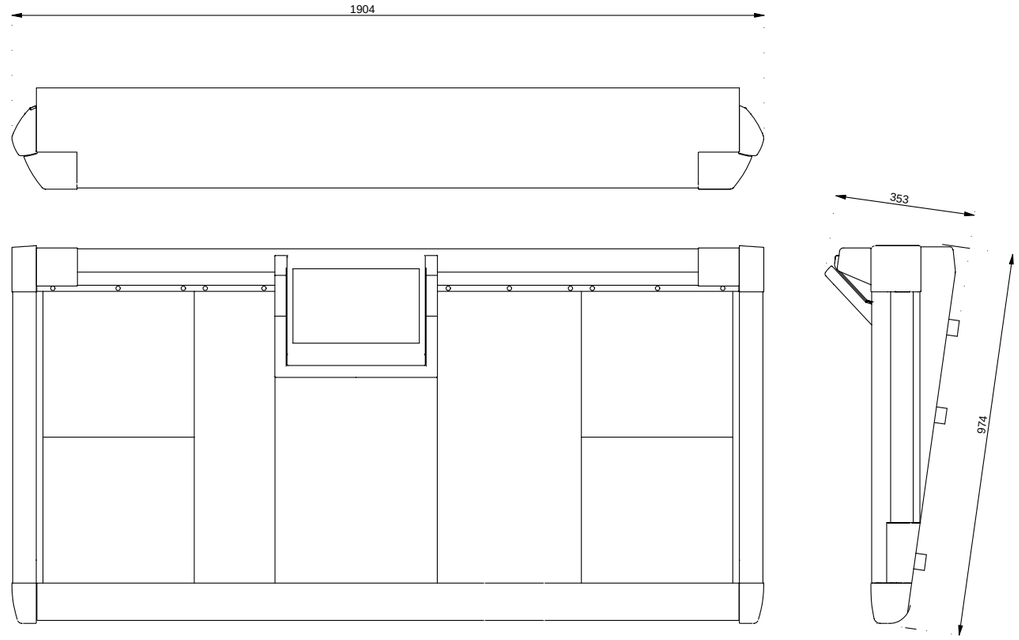
Assignable meter position for comprehensive level monitoring.

7 Communication

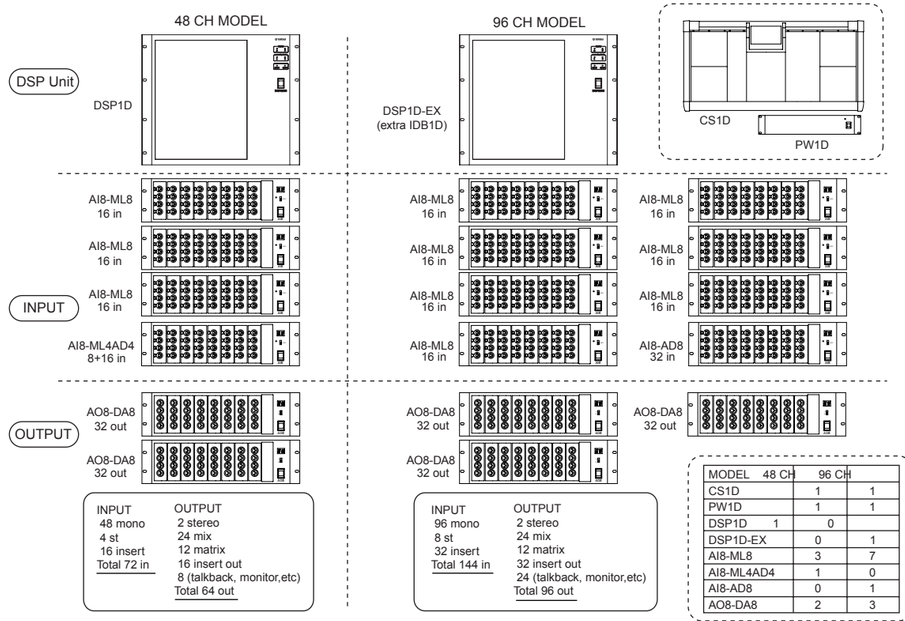
Simple connection to the rack system via BNC coaxial and 68-pin cables.

7

Dimensions



PM1D : Digital Audio Mixing System Basic Configuration



MODEL	48 CH	96 CH
CS1D	1	1
PW1D	1	1
DSP1D	1	0
DSP1D-EX	0	1
AI8-ML8	3	7
AI8-ML4AD4	1	0
AI8-AD8	0	1
AO8-DA8	2	3

Required Quantity